

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket No.: 3279-ZB IX S67
2587

In re application of

Richard J. Feldmann

Serial No. 10/609,383

Filed: 07/01/2003



Group: 2587

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This Information Disclosure Statement is submitted:

- under 37 CFR 1.97(b), or
(Within three months of filing national application; or date of entry of international application; or before mailing date of first Office action on the merits; whichever occurs last.)
- under 37 CFR 1.97(c) together with either a:
 Certification under 37 CFR 1.97(e), or
 a \$180.00 fee under 37 CFR 1.17(p), or
(After the CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first.)
- under 37 CFR 1.97(d) together with either a:
 Certification under 37 CFR 1.97(e), and
 a petition under 37 CFR 1.97(d)(2)(ii), and
a \$130.00 petition fee set forth in 37 CFR §117(i)(1).
(Filed after final action or notice of allowance, whichever occurs first, but before payment of the issue fee.)

Applicant(s) submits herewith Form PTO 1449-Information Disclosure Citation together with copies (via CD ROM) of patents, publications or other information of which applicant(s) is aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

The relevance of the attached references is that this is the closest art of which applicant(s) is aware.

Applicant(s) submits that the above references taken alone or in combination neither anticipate nor render obvious the present invention. Consideration of the foregoing in relation to this application is respectfully requested.

Respectfully submitted,

Jim Zegeer, Reg. No. 18,957
Attorney for Applicant(s)

Attachments:

Form PTO-1449 and CD ROM containing cited references

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Date: December 19, 2003

In the event this paper is deemed not timely filed, the applicant hereby petitions for an appropriate extension of time. The fee for this extension may be charged to Deposit Account No. 26-0090 along with any other additional fees which may be required with respect to this paper.

FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office		Atty. Docket No. 3279-Z	Serial No. 10/609,383
Information Disclosure Statement By Applicant		APPLICANT Richard J. Feldmann	
	Filing Date 07/01/2003	Group 2857	



<u>1</u>	Tettelin	Complete Genome Sequence of a Virulent Isolate of <i>Streptococcus pneumoniae</i>	Science 2001 July 20; 293: 498-506.
<u>2</u>	Ferber	<i>S. pneumoniae</i> Genome Falls to Sequencers	Science 2001 July 20; 293: 410
<u>3</u>	Ghigo	Natural conjugative plasmids induce bacterial biofilm development	Nature 412, 442 - 445 (26 Jul 2001)
<u>4</u>	Gura	A silence that speaks volumes	Nature 404, 804 - 808 (20 Apr 2000)
<u>5</u>	Vance	RNA Silencing in Plants- -Defense and Counterdefense	Science 2001 June 22; 292: 2277-2280.
<u>6</u>	Bergelson	Evolutionary Dynamics of Plant R-Genes	Science 2001 June 22; 292: 2281-2285.
<u>7</u>	Staskawicz	Common and Contrasting Themes of Plant and Animal Diseases	Science 2001 June 22; 292: 2285-2289.
<u>8</u>	Costerton	Battling Biofilms	Scientific American; July 2001;
<u>9</u>	(no author cited)	Fighting RNA with RNA	Science 1999 Oct. 29; 286: 869
<u>10</u>	Strauss	Candidate 'Gene Silencers' Found	Science 1999 Oct. 29; 286: 886
<u>11</u>	Hamilton	A Species of Small Antisense RNA in Posttranscriptional Gene Silencing in Plants	Science 1999 Oct. 29; 286: 950-952.
<u>12</u>	Lin	RNA interference: Policing rogue genes	Nature 402, 128 - 129 (11 Nov 1999)
<u>13</u>	Roush	Biotechnology: Antisense Aims for a Renaissance	Science 1997 May 23; 276: 1192-1193.
<u>14</u>	Voytas	Retroelements in Genome Organization	Science 1996 November 1; 274: 737-738.

Examiner	Date Considered	Sheet 1 of 9
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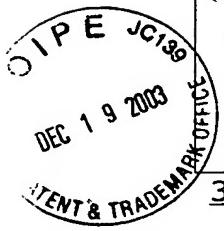
FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office		Atty. Docket No. 3279-Z	Serial No. 10/609,383
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	Filing Date 07/01/2003	Group 2857	

- 15 SanMiguel Nested Retrotransposons in the Science 1996 Nov. 1;
Intergenic Regions of 274: 765-768.
the Maize Genome
- 16 Adoutte Small but mighty Nature 408, 37 - 38 (02
timekeepers Nov 2000)
- 17 Pasquinelli Conservation of the Nature 408, 86-89 (02
sequence and temporal Nov 2000)
expression of let-7
heterochronic
regulatory RNA
- 18 Hammond An RNA-directed Nature 404, 293-296 (16
nuclease mediates post- Mar 2000)
transcriptional gene
silencing in Drosophila
cells
- 19 Ketting A genetic link between Nature 404, 296-298 (16
co-suppression and RNA Mar 2000)
interference in C.
elegans
- 20 Eickbush Molecular biology: Nature 404, 940-943 (27
Introns gain ground Apr 2000)
- 21 unisci.com Quorum sensing unisci.com; 11 June 1998
molecules found for key
lab bacteria
- 22 Saitoh Structural and EMBO J. 2000 19: 2315-
functional conservation 2322.
at the boundaries of the
chicken β -globin
domain
- 23 Bell The Protein CTCF Is Cell 1999 98: 387-396
Required for the
Enhancer Blocking
Activity of Vertebrate
Insulators
- 24 Sharp RNA Interference Science 2000 March 31;
287: 2431-2433.

Examiner	Date Considered	Sheet 2 of 9
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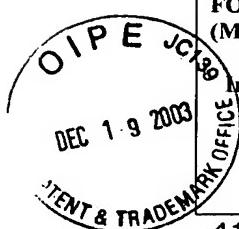
FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office			Atty. Docket No. 3279-Z	Serial No. 10/609,383
Information Disclosure Statement By Applicant			APPLICANT Richard J. Feldmann	
			Filing Date 07/01/2003	Group 2857
<u>25</u>	Grishok	Genetic Requirements for Inheritance of RNAi in <i>C. elegans</i>	Science 2000 March 31; 287: 2494-2497.	
<u>26</u>	Domeier	A Link Between RNA Interference and Nonsense-Mediated Decay in <i>Caenorhabditis elegans</i>	Science 2000 September 15; 289: 1928-1930.	
<u>27</u>	Ridley	Cancer: Molecular switches in metastasis	Nature 406, 466-467 (03 Aug 2000)	
<u>28</u>	Clark	Genomic analysis of metastasis reveals an essential role for RhoC	Nature 406, 532 - 535 (03 Aug 2000)	
<u>29</u>	Paro	Chromatin regulation: Formatting genetic text	Nature 406, 579-580 (10 Aug 2000)	
<u>30</u>	Rea	Regulation of chromatin structure by site-specific histone H3 methyltransferases	Nature 406, 593-599 (10 Aug 2000)	
<u>31</u>	Orphanides	RNA polymerase II elongation through chromatin	Nature 407, 471-475 (28 Sep 2000)	
<u>32</u>	Vinson	Macromolecular Ballet	Science 2000 May 26; 288: 1369	
<u>32.1</u>	Marx	Interfering With Gene Expression	Science 2000 May 26; 288: 1370-1372.	
<u>32.2</u>	Pennisi	Matching the Transcription Machinery to the Right DNA	Science 2000 May 26; 288: 1372-1373.	
<u>32.3</u>	Wente	Gatekeepers of the Nucleus	Science 2000 May 26; 288: 1374-1377.	
<u>32.4</u>	Gasser	A Sense of the End	Science 2000 May 26; 288: 1377-1379.	
<u>32.5</u>	Nasmyth	Splitting the Chromosome: Cutting the Ties That Bind Sister Chromatids	Science 2000 May 26; 288: 1379-1384.	
Examiner		Date Considered	Sheet 3 of 9	



FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office		Atty. Docket No. 3279-Z	Serial No. 10/609,383
Information Disclosure Statement By Applicant		APPLICANT Richard J. Feldmann	
Filing Date	Group		
07/01/2003	2857		

<u>32.6</u>	Lewis	Like Attracts Like: Getting RNA Processing Together in the Nucleus	Science 2000 May 26; 288: 1385-1389.
<u>33</u>	Ochman	Lateral gene transfer and the nature of bacterial innovation	Nature 405, 299-304 (18 May 2000)
<u>34</u>	Nisbet	Palaeobiology: The realms of Archaean life	Nature 405, 625-626 (08 Jun 2000)
<u>35</u>	Bell	Insulators and Boundaries: Versatile Regulatory Elements in the Eukaryotic Genome	Science 2001 Jan. 19; 291: 447-450.
<u>36</u>	Hartl	Nuclear Assembly with k DNA in Fractionated Xenopus Egg Extracts: An Unexpected Role for Glycogen in Formation of a Higher Order Chromatin Intermediate	1994 J. Cell Biol. 124:235
<u>37</u>	Baulcombe	Unwinding RNA Silencing	Science 2000 Nov. 10; 290: 1108-1109
<u>38</u>	Wu-Scharf	Transgene and Transposon Silencing in Chlamydomonas reinhardtii by a DEAH-Box RNA Helicase	Science 2000 Nov. 10; 290: 1159-1162
<u>39</u>	Myung	Multiple pathways cooperate in the suppression of genome instability in <i>Saccharomyces cerevisiae</i>	Nature 411, 1073-1076 (28 Apr 2001)
<u>40</u>	Bulger	Comparative structural and functional analysis of the olfactory receptor genes flanking the human and mouse - globin gene clusters	PNAS 2000; 97: 14560-14565.

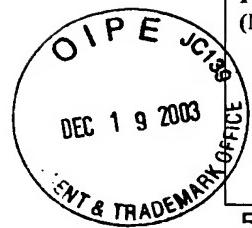
Examiner	Date Considered	Sheet 4 of 9
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FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office		Atty. Docket No. 3279-Z	Serial No. 10/609,383
Information Disclosure Statement By Applicant			
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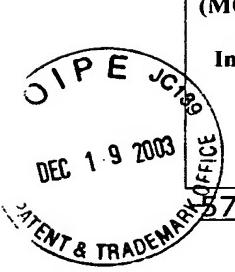
<u>41</u>	Bulger	Conservation of sequence and structure flanking the mouse and human -globin loci: The -globin genes are embedded within an array of odorant receptor genes	PNAS 1999; 96: 5129-5134.
<u>42</u>	Doench	siRNAs can function as miRNAs	Genes Dev. 2003 17: 438-442.
<u>43</u>	Felsenfeld	Controlling the double helix	Nature 421, 448 - 453 (23 Jan 2003)
<u>44</u>	Ball	Portrait of a molecule	Nature 421, 421 - 422 (23 Jan 2003)
<u>45</u>	Collins	A vision for the future of genomics research	Nature 422, 835 - 847 (24 Apr 2003)
<u>46</u>	Lau	An Abundant Class of Tiny RNAs with Probable Regulatory Roles in	Science 2001 October 26; 294: 858-862.
		Caenorhabditis elegans	
<u>47</u>	Kapranov	Large-Scale Transcriptional Activity in Chromosomes 21 and 22	Science 2002 May 3; 296: 916-919.
<u>48</u>	Hamilton	Two classes of short interfering RNA in RNA silencing	EMBO J. 2002 21: 4671-4679.
<u>49</u>	Baulcombe	DNA Events. An RNA Microcosm	Science 2002 September 20; 297: 2002-2003.

Examiner	Date Considered	Sheet 5 of 9
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FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office		Atty. Docket No. 3279-Z	Serial No. 10/609,383
Information Disclosure Statement By Applicant		APPLICANT Richard J. Feldmann	
		Filing Date 07/01/2003	Group 2857
<u>50</u>	Banerjee	Control of developmental timing by small temporal RNAs: a paradigm for RNA-mediated regulation of gene expression	BioEssays 2002; 24: 119-129
<u>51</u>	Volpe	Regulation of Heterochromatic Silencing and Histone H3 Lysine-9 Methylation by RNAi	Science 297: 1833-1837;
<u>52</u>	West	Insulators: many functions, many mechanisms	Genes Dev. 2002 16: 271-288.
<u>53</u>	Hall	Establishment and Maintenance of a Heterochromatin Domain	Science 297: 2232-2237
<u>54</u>	Wolffe	Chromatin disruption and modification	Nucl. Acids. Res. 1999 27: 711-720.
<u>55</u>	Bulger	Conservation of sequence and structure flanking the mouse and human -globin loci: The -globin genes are embedded within an array of odorant receptor genes	PNAS 1999; 96: 5129-5134.
<u>56</u>	Bulger	Comparative structural and functional analysis of the olfactory receptor genes flanking the human and mouse -globin gene clusters	PNAS 2000; 97: 14560-14565.

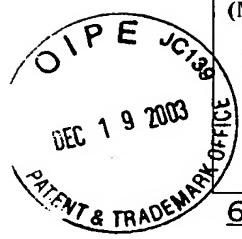
Examiner	Date Considered	Sheet 6 of 9



FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office		Atty. Docket No.	Serial No.
		3279-Z	10/609,383
Information Disclosure Statement By Applicant			
APPLICANT Richard J. Feldmann			
Filing Date	Group		
07/01/2003	2857		

- 27 Rastinejad Tumor suppression by Cell. 1993 Dec
RNA from the 3' 17;75(6):1107-17.
untranslated region of
alpha-tropomyosin.
- 58 Zeng Both Natural and Molecular Cell 2002 9:
Designed Micro RNAs 1327-1333.
Can Inhibit the
Expression of Cognate
mRNAs When
Expressed in Human
Cells
- 59 Grishok Genes and mechanisms Cell. 2001 Jul 13;
related to RNA 106(1):23-34.
interference regulate
expression of the small
temporal RNAs that
control *C. elegans*
developmental timing.
- 60 Wightman Posttranscriptional 1993, Cell 75: 855-862.
regulation of the
heterochronic gene lin-
14 mediates temporal
pattern formation in *C.*
elegans,
- 61 Richards Epigenetic Codes for Cell 2002 108: 489-500.
Heterochromatin
Formation and
Silencing: Rounding up
the Usual Suspects
- 62 Wu 25 years after the Trends in Biochemical
nucleosome model: Science; December, 2000;
chromatin 25: 619-623
modifications,
- 63 Cuvier Identification of a Chromosoma 2002
multicopy chromatin 110:519-531
boundary element at
the borders of silenced
chromosomal domains

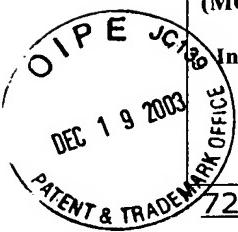
Examiner	Date Considered	Sheet 7 of 9
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FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office		Atty. Docket No. 3279-Z	Serial No. 10/609,383
Information Disclosure Statement By Applicant			
APPLICANT Richard J. Feldmann			
Filing Date 07/01/2003	Group 2857		

<u>64</u>	Hart	Facilitation of chromatin dynamics by SARs	Current Opinion in Genetics and Devel Vol 8, October 1998, pp 519-525
<u>65</u>	Ha	A bulged lin-4/lin-14 RNA duplex is sufficient for Caenorhabditis elegans lin-14 temporal gradient formation	Genes Dev. 1996 10: 3041-3050.
<u>66</u>	Feldmann	Control of Gene Expression by Connectrons	unpublished notes
<u>67</u>	Tang	A transcriptional enhancer required for the differential expression of the human estrogen receptor in breast cancers	Mol. Cell. Biol. 1997 17: 1274-1280.
<u>68</u>	Hirotsune	An expressed pseudogene regulates the messenger-RNA stability of its homologous coding gene	Nature 423, 91 - 96 (01 May 2003)
<u>69</u>	Tufarelli	Transcription of antisense RNA leading to gene silencing and methylation as a novel cause of human genetic disease	Nature Genetics 34, 157 - 165 (01 Jun 2003)
<u>70</u>	Dernburg	A Chromosome RNAissance	Cell 2002 111: 159-162.
<u>71</u>	Yelin	Widespread occurrence of antisense transcription in the human genome	Nature Biotechnology 21, 379 - 386 (01 Apr 2003)

Examiner	Date Considered	Sheet 8 of 9
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FORM PTO-1449 U.S. Department of Commerce (MODIFIED) Patent and Trademark Office		Atty. Docket No. 3279-Z	Serial No. 10/609,383
Information Disclosure Statement By Applicant		APPLICANT Richard J. Feldmann	
		Filing Date 07/01/2003	Group 2857

- 72 Segal Module networks: Nature Genetics 34, 166 -
identifying regulatory 176 (01 Jun 2003)
modules and their
condition-specific
regulators from gene
expression data
- 73 Carmichael Antisense starts making Nature Biotechnology 21,
more sense 371 - 372 (01 Apr 2003)
- 74 Resnik Functional and Genetica 83:293-299,
structural units in the 1991.
Chromomere

Examiner	Date Considered	Sheet 9 of 9
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